## **RAW SEQUENCE LISTING**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	09/890836B
Source:	
Date Processed by STIC:	

## ENTERED

### CRF Errors Edited by the STIC Systems Branch

ial I	Number: 09/890,836B	CRF Edit Date: 07-25-05 Edited by:
	Realigned nucleic acid/amino acid numbers/te text "wrapped" to the next line	ext in cases where the sequence
<b>-</b>	Corrected the SEQ ID NO. Sequence number	rs edited were:
_	Inserted or corrected a nucleic number at the NO's edited:	end of a nucleic line. SEQ ID
_	Deleted: invalid beginning/end-of-file text	t; page numbers
	Inscript mandatomy bandings/nymovis identifi	iora angeitically.
	Inserted mandatory headings/numeric identifi	ers, specificany:
_	Moved responses to same line as heading/num	eric identifier, specifically:
	Other: Inserted line emplenation-	as (



#### IFW16

RAW SEQUENCE LISTING DATE: 07/25/2005
PATENT APPLICATION: US/09/890,836B TIME: 11:20:35

Input Set : A:\pto.kd.TXT

4 <110> APPLICANT: Andrew Bett

Output Set: N:\CRF4\07252005\1890836B.raw

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Volker Sandig
             Rima Youil
      8 <120> TITLE OF INVENTION: IMPROVED HELPER DEPENDENT VECTOR SYSTEM
             FOR GENE THERAPY
     11 <130> FILE REFERENCE: 20377YP
     13 <140> CURRENT APPLICATION NUMBER: US 09/890,836B
     14 <141> CURRENT FILING DATE: 2001-08-03
     16 <150> PRIOR APPLICATION NUMBER: PCT/US00/02405
     17 <151> PRIOR FILING DATE: 2000-01-31
     19 <150> PRIOR APPLICATION NUMBER: 60/138,134
     20 <151> PRIOR FILING DATE: 1999-06-08
     22 <150> PRIOR APPLICATION NUMBER: 60/118,601
     23 <151> PRIOR FILING DATE: 1999-02-04
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     27 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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     31 <212> TYPE: DNA
     32 <213> ORGANISM: Artificial Sequence
     34 <220> FEATURE:
     35 <223> OTHER INFORMATION: Consensus sequence
W--> 37 <221> NAME/KEY: misc_feature
     38 <222> LOCATION: (1)...(15)
     39 <223 > OTHER INFORMATION: n = A, T, C or G
W-->41<400>1
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Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

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Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

130 <213> ORGANISM: Artificial Sequence 132 <220> FEATURE: 133 <223> OTHER INFORMATION: PCR Primer 135 <400> SEQUENCE: 9 136 gatcgtcggc cgcttgggtc atagacttct ttgagaacca g 41 138 <210> SEQ ID NO: 10 139 <211> LENGTH: 41 140 <212> TYPE: DNA 141 <213> ORGANISM: Artificial Sequence 143 <220> FEATURE: 144 <223> OTHER INFORMATION: PCR Primer 146 <400> SEQUENCE: 10 41 147 atcagttage ggccgcacaa gctaagatca caaagctgtt t 149 <210> SEQ ID NO: 11 150 <211> LENGTH: 37 151 <212> TYPE: DNA 152 <213> ORGANISM: Artificial Sequence 154 <220> FEATURE: 155 <223> OTHER INFORMATION: PCR Primer 157 <400> SEQUENCE: 11 37 158 tatggcgcgc cgctgacacc cagcctgggt gccggtg 160 <210> SEQ ID NO: 12 161 <211> LENGTH: 39 162 <212> TYPE: DNA 163 <213> ORGANISM: Artificial Sequence 165 <220> FEATURE: 166 <223> OTHER INFORMATION: PCR Primer 168 <400> SEQUENCE: 12 39 169 tcgacgcgta gcgctgtgtg gccttggcag tttccatag 171 <210> SEO ID NO: 13 172 <211> LENGTH: 45 173 <212> TYPE: DNA 174 <213> ORGANISM: Artificial Sequence 176 <220> FEATURE: 177 <223> OTHER INFORMATION: PCR Primer 179 <400> SEQUENCE: 13 45 180 tcagtaatgc ggccgcggga tcattcctgg actcagattg ttctg 182 <210> SEQ ID NO: 14 183 <211> LENGTH: 41 184 <212> TYPE: DNA 185 <213> ORGANISM: Artificial Sequence 187 <220> FEATURE: 188 <223> OTHER INFORMATION: PCR Primer 190 <400> SEQUENCE: 14 41 191 tattaaggcg ccgggcatgg gagtgatctc accaactctg g 193 <210> SEQ ID NO: 15 194 <211> LENGTH: 46 195 <212> TYPE: DNA 196 <213> ORGANISM: Artificial Sequence

Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

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	207	<213> ORGAN	NISM: Artif:	icial Sequer	nce			
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	210	<223> OTHER	R INFORMATIO	ON: Modified	d adenovirus	5		
		<400> SEQUE						
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	216	ttggtgtgcg	ccggtgtaca	caggaagtga	caattttcgc	gcggttttag	gcggatgttg	240
	217	tagtaaattt	gggcgtaacc	gagtaagatt	tggccatttt	cgcgggaaaa	ctgaataaga	300
				tttgtgttac				360
				tggagactcg				420
				tttgattcgg				480
		_		ctccacagaa	-			540
				aatttggggg				600
	223	ggatctcatg	tgaagactcc	cctggcttga	gaaatcactg	tcttgttgaa	aatgggaaca	660
	224	aagctaagtc	agatagctgg	ttcatcagca	atgactttga	ccaagcctga	tcccacccta	720
				cacccccac				780
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				acaacaacca				900
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				ttcaccagaa				1020
				ataacttcat				1080
				aagagccctg				1140
				cagctggaag				1200
•				ctctcctgct				1260
				agtggagaag				1320
	235	tagttggaat	cacttcaact	tattgcaata	aacacttact	aagcacctat	tgtgggcaag	1380
				tcagtagata				1440
				ttgagcattt				1500
				atctgtataa				1560
				gccaatgagg				1620
	240	catacagccc	actagtggca	gagcaggatg	caaacccagg	cttgcctcgt	tcccaagccc	1680
	241	acatgtcgtt	tgcattggtg	tggaggtgtg	catgtgttta	gtcattagca	tgttatatga	1740
				gaaacttaaa				1800
	243	tttccaaggg	gaggtgtgga	cctccggaca	aatttttaag	aactaattat	aaatacttaa	1860
				cctaactacc				1920
	245	cctctaaaac	ccaaacaaaa	acaacaaagt	caagaaaacc	catgaaatct	tagcaagcga	1980
	246	tttctatgta	cttgtgaaaa	ggatttcttt	accattctaa	tgggatttat	gccaaccata	2040
				atggggtggt				2100
	248	tctgcagctt	catgttatca	agctccagtt	tgtccttgga	gcaaggttat	ctgggacatg	2160
	249	agcagaggca	ttgctttctg	caatggacag	ttctttctgc	ctgcatacct	agctccttga	2220
	250	taactttaaa	taccatttta	tagccacact	ggagttttga	agacctcaat	atgcaaatat	2280

Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

			gtctgctcca				2340
252	gcttatttgt	agagaactga	agcattttaa	gcttttgctc	aggaatccct	ggtagcttcc	2400
			tgatgggtca				- 2460
			tcaggcagaa				2520
255	gcggcggaag	ataccccgac	agtgtgggca	gttctatttc	agcagcaatc	aagagggggc	2580
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268	tggaatgccc	tttctccatg	attgtactct	gggaattctg	tgtgtctttc	gagatgaagc	3360
269	tcctccaccc	tggaaattct	gcctctcttt	ccaggtccag	ctcctgtggc	tgaataccct	3420
			ctgggccaag				3480
			caaagggctc	_	_		3540
			tgatgttcta				3600
			ggataaacac				3660
			tttcaatgct				3720
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			taacaatgca				4800
			taagcatcac				4860
			gcgccagctc				4920
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			ctgctgtccc				5040
			cctttgtttt				5100
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Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

#### Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 6,7,8,9,10,11,12,13

#### VERIFICATION SUMMARY

DATE: 07/25/2005 PATENT APPLICATION: US/09/890,836B TIME: 11:20:36

Input Set : A:\pto.kd.TXT

Output Set: N:\CRF4\07252005\1890836B.raw

L:37 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order! L:41 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1

L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0

# Raw Sequence Listing before editing, for reference only



IFW16

RAW SEQUENCE LISTING DATE: 07/19/2005 PATENT APPLICATION: US/09/890,836B TIME: 11:18:07 Input Set : A:\PTO.RJ.TXT Output Set: N:\CRF4\07192005\1890836B.raw 4 <110> APPLICANT: Andrew Bett Volker Sandiq Rima Youil 8 <120> TITLE OF INVENTION: IMPROVED HELPER DEPENDENT VECTOR SYSTEM FOR GENE THERAPY 11 <130> FILE REFERENCE: 20377YP 13 <140> CURRENT APPLICATION NUMBER: US 09/890,836B 14 <141> CURRENT FILING DATE: 2001-08-03 16 <150> PRIOR APPLICATION NUMBER: PCT/US00/02405 17 <151> PRIOR FILING DATE: 2000-01-31 19 <150> PRIOR APPLICATION NUMBER: 60/138,134 20 <151> PRIOR FILING DATE: 1999-06-08 22 <150> PRIOR APPLICATION NUMBER: 60/118,601 23 <151> PRIOR FILING DATE: 1999-02-04 Does Not Comply 25 <160> NUMBER OF SEQ ID NOS: 17 Corrected Diskette Needed 27 <170> SOFTWARE: FastSEQ for Windows Version 4.0 ERRORED SEQUENCES 66 <210> SEQ ID NO: 4 67 <211> LENGTH: 158 68 <212> TYPE: DNA 69 <213> ORGANISM: Artificial Sequence 71 <220> FEATURE: 72 <223> OTHER INFORMATION: Synthetic packaging signal 74 <400> SEQUENCE: 4 inden E--> 75 gtacacagga agtgactttt aacgcgcggt ttgttacgga tgttgtagta aatttgtcta W--> 76 60 gggccgagta agatttgacc gtttacgcgg ggactttgaa taagagcgag tgaaatctga 158 E--> 77 (120) ataattttgt tgtactcata gegegtaatc tctagacg 79 <210> SEQ ID NO: 5 80 <211> LENGTH: 158 81 <212> TYPE: DNA 82 <213> ORGANISM: Artificial Sequence 84 <220> FEATURE: 85 <223> OTHER INFORMATION: Adenovirus 5 87 <400> SEQUENCE: 5 E--> 88 gtacacagga agtgacaatt ttcgcgcggt tttaggcgga tgttgtagta aatttgggcg W--> 89(60<u>t</u>aaccgagta agatttggcc attttcgcgg gaaaactgaa taagaggaag tgaaatctga 158 E--> 90 (120ataattttgt gttactcata gcgcgtaatc tctagacg 92 <210> SEQ ID NO: 6 93 <211> LENGTH: 65

94 <212> TYPE: DNA

6

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/890,836B

DATE: 07/19/2005 TIME: 11:18:07

Input Set : A:\PTO.RJ.TXT

Output Set: N:\CRF4\07192005\1890836B.raw

95 <213> ORGANISM: Artificial Sequence

97 <220> FEATURE:

98 <223> OTHER INFORMATION: Linker

100 <400> SEQUENCE: 6

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E--> 102(65)

104 <210> SEQ ID NO: 7

105 <211> LENGTH: 65

106 <212> TYPE: DNA

107 <213> ORGANISM: Artificial Sequence

109 <220> FEATURE:

110 <223> OTHER INFORMATION: Linker

112 <400> SEQUENCE: 7

W--> 113 agcttggcgc cgaattcacg cgtttctaga agcggccgca gatctggcgc gccaataatc

E--> 114 65

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/890,836B

DATE: 07/19/2005 TIME: 11:18:08

Input Set : A:\PTO.RJ.TXT

Output Set: N:\CRF4\07192005\1890836B.raw

#### Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:6; Line(s) 101
Seq#:7; Line(s) 113

#### VERIFICATION SUMMARY

DATE: 07/19/2005 PATENT APPLICATION: US/09/890,836B TIME: 11:18:08

Input Set : A:\PTO.RJ.TXT

Output Set: N:\CRF4\07192005\1890836B.raw

L:37 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order! L:41 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1 L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0 L:75 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:4 L:76 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:6 L:77 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:4 M:254 Repeated in SeqNo=4 L:77 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:3 L:77 M:252 E: No. of Seq. differs, <211> LENGTH:Input:158 Found:98 SEQ: L:88 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:60 SEQ:5 L:89 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:6 L:90 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:5 -M:254 Repeated in SeqNo=5 L:90 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:3 L:90 M:252 E: No. of Seq. differs, <211> LENGTH:Input:158 Found:98 SEQ:5 L:101 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:76 L:102 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:6 L:102 M:301 E: (44) No Sequence Data was Shown, SEQ ID:6 L:102 M:252 E: No. of Seq. differs, <211> LENGTH:Input:65 Found:0 SEQ:6-L:113 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:7 L:114 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:7 -L:114 M:301 E: (44) No Sequence Data was Shown, SEQ ID:7 / L:114 M:252 E: No. of Seq. differs, <211> LENGTH:Input:65 Found:0 SEQ:7